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Simple Patient Outreach and Scheduling Assistance Significantly Boosts Mammography Uptake at Urban Safety-Net Hospital

2020 Virtual Scientific Session Abstract:

Phone-Call and Linkage-to-Care-Based Intervention Increases Mammography Uptake among Primary Care Patients at an Urban Safety-Net Hospital

Columbia, MD, May 22, 2020--Telephone outreach coupled with scheduling assistance significantly increased screening mammography set-up and follow-through in a population characterized by low rates of screening mammography and high rates of advanced breast cancer at diagnosis. These were the findings of a new study conducted at five primary care urban safety-net hospital (SNH) clinics at University of Missouri, Kansas City to be published on May 22 online in the American Society of Breast Surgeon (ASBrS) 2020 Virtual Scientific Session Official Proceedings* and in the Annals of Surgical Oncology.

“Recent controversy about current mammography guidelines designed to combat over-diagnosis and over-treatment may be obscuring the reality within pockets of the most vulnerable patients who are rarely getting screened,” comments primary study author Nasim Ahmadiyah, MD, University of Missouri, Kansas City School of Medicine. “These patients are being diagnosed at later stages, and we have ample evidence that the result is more aggressive treatments and worse long-term survival.”

Concerned that its patient population presented with three times as many stage III and IV breast cancers as other Commission on Cancer (COC) hospitals, the Kansas City, MO SNH analyzed the socio-demographic-biologic factors associated with late-stage at diagnosis among these women. Failure to undergo mammographic screening within two years of diagnosis was the most significant factor. In fact, the SNH noted that only 42% of its patients age 50 or older undergo regular biennial screening.

“We wanted to determine whether a two-part intervention as simple as a telephone reminder and offer to schedule the mammogram would boost screening among women who were due for biennial screening mammograms,” she says. The study found that 17% of the women successfully contacted underwent screening within three months from the contact date, compared to 6% in the control group who received the usual care consisting of reminder letters and physician prompting at visits. Significantly, a secondary analysis revealed that the increase in mammography was almost entirely attributable to the women whose exams were scheduled for them. A reminder telephone call alone had no impact on the likelihood of mammogram completion.

The study involved 890 women aged 50 to 65 who were due for a mammogram who were seen at one of the five primary care clinics within three years of the study, but who had not had a mammogram during the prior two years. After randomization into two groups, the intervention group was contacted by telephone up to three times until reached to remind them they were due for a mammogram and to offer assistance in scheduling. The study successfully reached 82.8% of the intervention group. A telephone message counted as a contact. Of those reached, 32.9% set up appointments and 47.1% of scheduled exams were completed.

“We were frankly surprised and extremely encouraged that such a simple intervention requiring minimal resources could boost mammogram rates to such an extent,” commented Dr. Ahmadiyeh.

“Understanding that the scheduling component drove the success of the intervention is key, because we now can focus our resources most effectively going forward. Phone calls and letters are not enough. Scheduling must be simplified for our already overburdened patients. We hope this finding might be relevant to other safety-net hospitals as well.”

Even with this significant exam uptick, however, the clinics studied still lagged well behind the national average for mammographic exam uptake rate of 73% and goals such as the Healthy People 2020 target of 81%.

“As a next step, we want to engage with our patients so that they can help us boost this rate. It may be tempting to attribute the low screening exam rate to factors such as stress and economics, but we do not want to project our own explanation onto this population. We want to draw on the knowledge, strengths, and capacities of our patients and their communities and truly partner with them in our next phase of research.”

Dr. Ahmadiyeh notes that some women across all strata of society fail to undergo regular screening. “In general, early detection remains important in optimizing breast cancer outcomes. No woman should forget this,” she says.

***The Official Proceedings is a comprehensive online compilation of peer-reviewed research selected for presentation at the 2020 Annual Meeting of the American Society of Breast Surgeons. The Meeting was cancelled due to caution surrounding the coronavirus.**

Abstract, Official Proceedings

Phone-Call and Linkage-to-Care-Based Intervention Increases Mammography Uptake among Primary Care Patients at an Urban Safety-Net Hospital

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Objective: Our urban safety-net hospital (SNH) has very low mammography compliance within its primary care clinics. Only 42% of women aged 50 or older get mammograms at least once every two years. Despite our Commission on Cancer (CoC) accreditation, we still see nearly three times more stage III and IV breast cancer patients at diagnosis than other CoC sites across the country. A multiple regression analysis looking at the socio-demographic-biologic factors associated with late-stage breast cancer at our SNH confirmed that lack of screening mammography within two years prior to diagnosis was the most significant factor ($p < 0.0001$, OR 7.3, CI= 3.4, 15.8) associated with late-stage at diagnosis. Meta-analyses show phone-based reminders and linkage to care increase mammography among low income women by 8.9% (Gardner M.P. et al PLoS One 2013;8(2):e55574). We sought to determine the effect of this intervention in an urban-safety net population.

Methods: 20% of women aged 50 and older who were overdue for biennial mammograms and who were established within one of five primary care clinics at an urban SNH were randomized to the intervention group (n=440), and 20% were randomized to usual care control group (n=440). A nurse navigator (RN), medical assistant (MA), or mammography technologist called each patient in the intervention group and offered to schedule a mammogram at time of phone call. A total of three attempts were made to contact patients; voicemail was left for patients and was considered a contact. Primary outcome measured was mammography completion three months after first phone-call. Secondary outcome measures were how many patients were successfully contacted, whether appointments made at time of phone call increased compliance, whether effectiveness of intervention was dependent on who made the phone call, whether there were any differences across the five clinics represented.

Results: Patients receiving the phone-call based and linkage to care intervention were significantly more likely to get mammograms within three months than those in the usual care control group (17% and 6%, respectively; $\chi^2 = 27.597$, $p < 0.0001$). 82.8% of patients were either spoken with or had voicemails left for them, with the others having non-working numbers. 32.9% made appointments for mammograms, of which 47.1% kept those appointments. Of patients who were successfully contacted, those who made an appointment at time of phone call, were significantly more likely to get their mammograms within three months than those who did not make an appointment ($\chi^2 95$, $p < 0.001$). Finally, mammography compliance did not differ by clinic or by the person who made the phone call.

Conclusions: Phone-call with linkage-to-care based interventions are effective in increasing mammography uptake among primary care clinic patients in an urban safety-net setting, and may be applicable to other urban safety-net hospitals around the country. This intervention could be integrated into the flow of clinic operations within primary care by use of medical assistants. If equally effective once fully integrated, we can expect our mammography uptake rate at our SNH primary care clinics to increase by ~ 11% (from 42% to about 53%). This still falls short of the national average of 73% or the Healthy People 2020 goal of 81%. Safety-net patients themselves likely hold the key to better understanding what would increase mammography uptake among the safety-net population. Future studies will use a community based participatory research approach to design more effective interventions tailored to this population with unique needs.